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REVIEW OF THE *DEPICTA* GROUP OF THE GENUS *ANNAPHILA*

WITH THE DESCRIPTION OF A NEW SPECIES FROM OREGON

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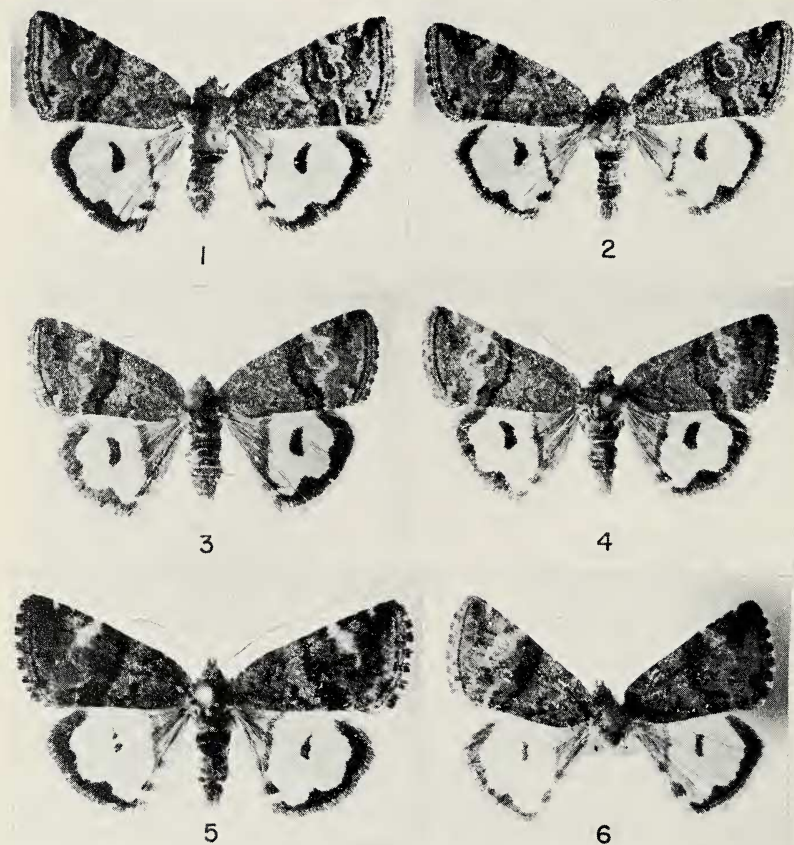
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THIS WORK HAS BEEN STIMULATED primarily by the discovery of a new species of *Annaphila* Grote (Noctuidae) from Oregon. Since Rindge and Smith (1952) have given thorough descriptions of *A. depicta depicta* Grote and *A. depicta morula* Rindge and Smith, we have only briefly evaluated these subspecies. *A. macfarlandi* Buckett and Bauer has been placed in the *depicta* group as a result of genitalic studies and wing maculation.

Thus far, the majority of *Annaphila* have been collected from and seem to be restricted to the Pacific Coast States, from southern California to British Columbia. One species, *A. pustulata* Henry Edwards, of the *mera* group, inhabits both Arizona and Texas and one specimen of *astrologa* Barnes and McDunnough was collected in Arizona.

Key to species of the *depicta* group

- 1. Ciliations on antennae in male less than 1/2 length of each individual segment; primaries suffused with brown dorsally, no prominent brown median cross line or band; discal crescent of secondaries thin, not large (figs. 5 & 6)*macfarlandi*
- Ciliations on antennae in male more than 1/2 the length of each individual segment; primaries suffused with gray dorsally; prominent median cross band of brown scales; discal crescent of secondaries large, thick 2
- 2. Ciliations on antennae in male nearly twice the length of each segment; dorsal surface of primaries lacking light brown area between reniform and transverse posterior line; secondaries with intradiscal line clearly defined on both sides by yellow orange ground color; outer marginal band thin, black (figs. 1 & 2)*depicta depicta*
- Ciliations on antennae of male equal to length of each individual segment; dorsal surface of primaries with light brown area between reniform and transverse posterior line; secondaries with basal area suffused with black to and including intradiscal line; discal crescent thick; outer marginal line thick, black (figs. 3 & 4)*depicta morula*



1. Adult female *Annaphila depicta depicta* Grote, Kelsey Creek, 3 miles west of Cobb, Lake County, California, March 30, 1961 (W. R. Bauer & J. S. Buckett.) 2. Adult male *A. depicta depicta*, same locality as figure 1, March 16, 1960 (W.R.B. & J.S.B.). 3. Topotype female *A. depicta morula* Rindge & Smith, La Tuna Canyon, Los Angeles County, California, March 11, 1948 (C. Hennie). 4. Topotype male, *A. depicta morula*, same locality as figure 3, February 22, 1947 (W. H. Evans). 5. Holotype female *A. macfarlandi* Buckett & Bauer, 5 miles northwest Corvallis, Benton County, Oregon, April 11, 1962 (A. N. McFarland). 6. Allotype male *A. macfarlandi* Buckett & Bauer, Corvallis, Benton County, Oregon, March 20, 1937 (S. Jewett, Jr).

A. depicta depicta Grote

Annaphila depicta Grote, 1873. Bull. Buffalo Soc. Nat. Sci. 1:150, pl. 4, fig. 13. Type female, San Mateo County, California (Bri. Mus.).

Male: Head clothed in gray and black scales and hairs; front protruding, truncate; antennae ciliate ventrally, ciliations longer than each individual segment; dorsally with black scales, distal portion of segments white. Primaries of gray ground color, basal line wanting; transverse anterior line geminate, black to brown; median line thin, black, outwardly shaded with wide brown band; orbicular wanting; reniform gray, outlined with white scales; transverse posterior line separate by white scales, strongly incurved below reniform, thence straight to inner margin; subterminal line zig-zagging, becoming broader near inner margin; apex of primaries suffused with black scales; terminal line black. Ventral surface of primaries with ground color yellow-orange, median line, reniform, and subterminal line present, black. Secondaries dorsally yellow-orange; basal area suffused with black scales; intradiscal line black; discal dot large, black, crescent shaped; patch of black scales midway between inner angle and intradiscal line; outer marginal band black, thin. Ventral surface of secondaries paler yellow-orange. Abdomen black, terminally with brown hairs. Male genitalia as in figs. 7 & 8.

Female: As in male except antennae possess shorter ciliations. Female genitalia as in fig. 13.

This subspecies is the most abundant *Annaphila* in central and, perhaps, northern California. It can be recognized by its gray primaries which are distinctly brown banded medially. In the past few years one was able to see thousands of *depicta depicta* on the wing in a single day in mid March. Like other members of the genus, *depicta depicta* is found about wooded streams and other moist areas, and occasionally in drier areas.

Annaphila depicta murula Rindge and Smith

Annaphila depicta morula Rindge and Smith, 1952. Bull. Am. Mus. Nat. Hist. 98(3):232, fig. 4C. Type male, La Tuna Canyon, Los Angeles County, California (Amer. Mus. Nat. Hist.).

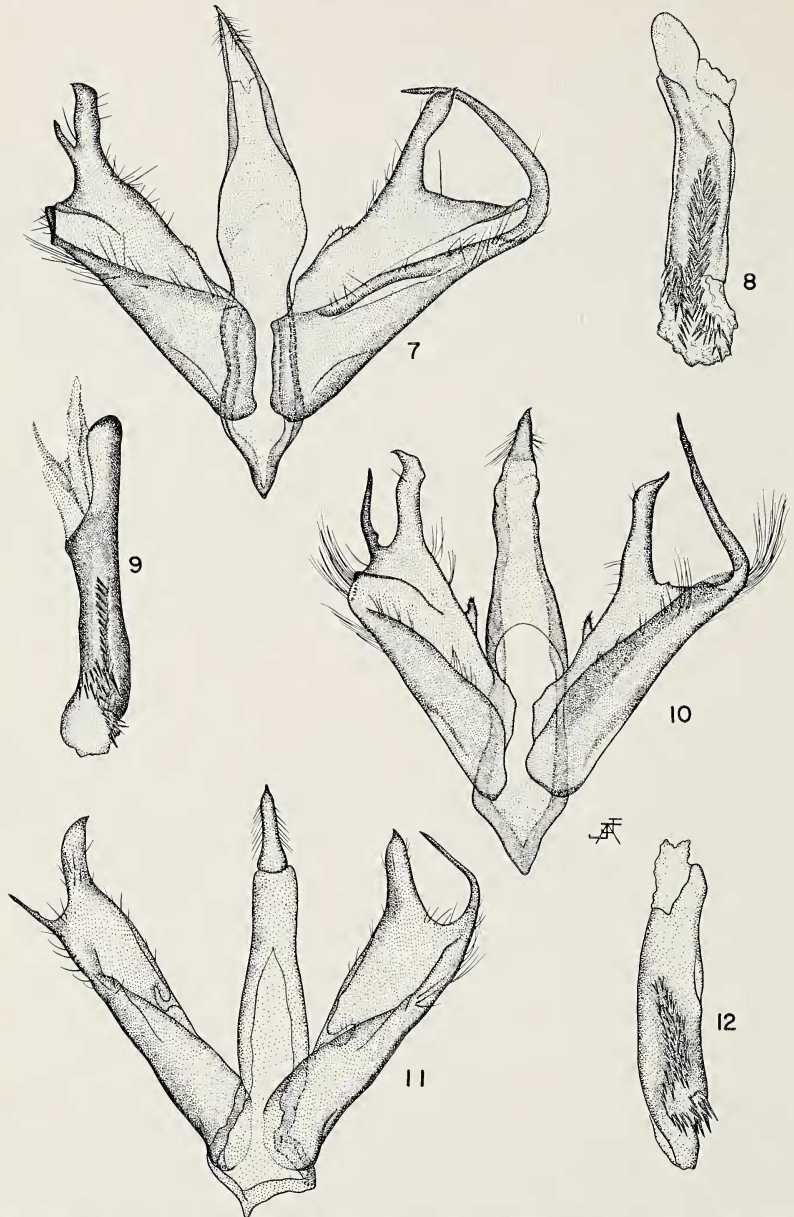
Male: Head as in preceding subspecies except shorter ciliations on antennae. Dorsal surface of primaries more gray-brown, reniform outlined in light brown scales; area between reniform and transverse posterior line of light brown scales, diminishing in width near inner margin. Ventral surface of primaries as in preceding subspecies except greater suffusion of black scales in yellow ground color, thereby giving a duller appearance. Secondaries with dorsal surface more dull yellow-orange than in *depicta depicta*; basal area more suffused with black; discal crescent larger; outer marginal band broader; ventral surface of secondaries slightly suffused with black scales, thereby appearing duller than nominate *depicta*. Abdomen as in *depicta depicta*. Male genitalia as in figs. 9 & 10.

Female: As in male except antennae possess shorter ciliations. Female genitalia as in fig. 14.

Larva: For notes on and description of larva, see Rindge and Smith (1952).

Location of type: American Museum of Natural History, Male.

Type locality: La Tuna Canyon, Los Angeles County, California.

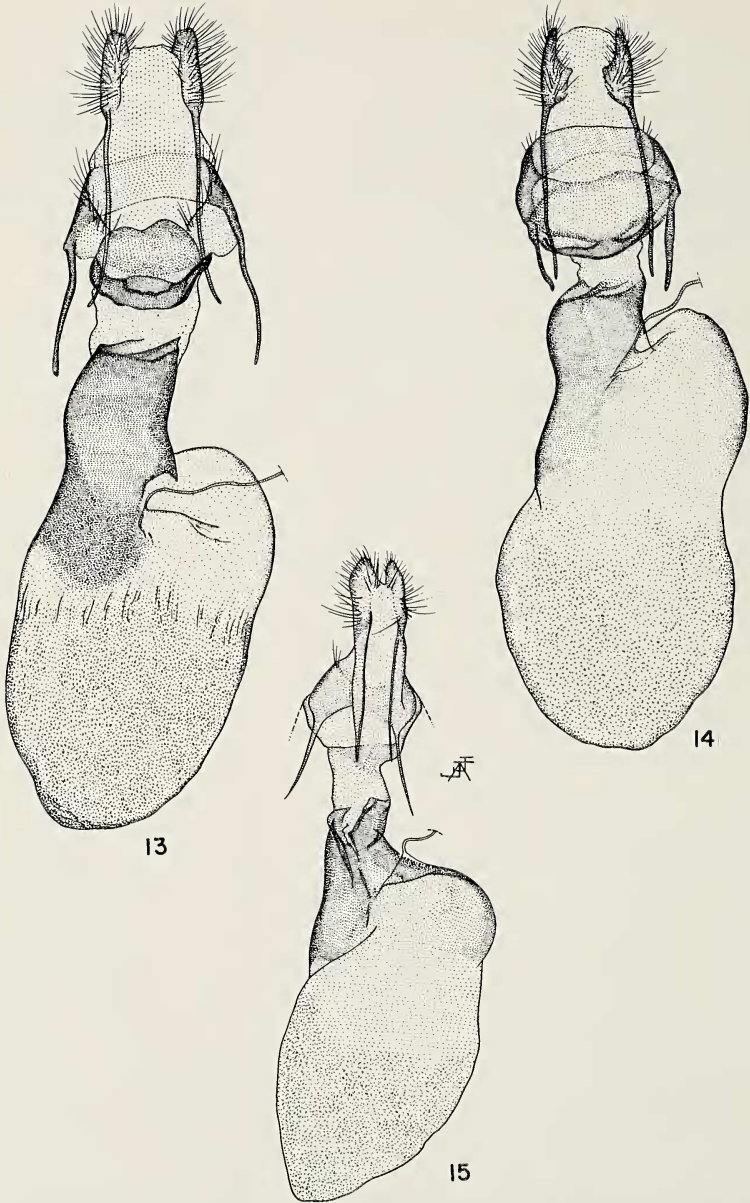


7. Male genitalia minus aedeagus, *A. depicta depicta* (Bauer-Buckett Slide No. 63B13-1), Kelsey Creek, 3 miles west of Cobb, Lake County, California, March 16, 1960. (W.R.B. & J.S.B.). 8. Aedeagus, *A. depicta depicta*, same data as figure 7. 9. Aedeagus, *A. depicta morula* (Bauer-Buckett slide No. 63C20-23), same data as figure 3. 10. Male genitalia minus aedeagus, *A. depicta morula*, same data as figure 3. 11. Allotype, male genitalia minus aedeagus, *A. macfarlandi* (Bauer-Buckett Slide No. 63B14-2), same data as figure 6. 12. Allotype, *A. macfarlandi*, aedeagus, data same as figure 6.

A. depicta morula is collected in February and March along creeks and on dry hillsides. The distinguishing characteristics of this subspecies are: (1) Lighter area between reniform and transverse posterior line of primaries; (2) More suffused basal area in dorsal surface of secondaries; (3) Broader outer marginal band of secondaries; (4) Suffusion of ventral surface of wings with black scales thus giving them a duller appearance than nominate *depicta*.

Annaphila macfarlandi Buckett and Bauer, new species

Holotype female: Head with vertex and front clothed with an admixture of brown and white hairs; front projecting, truncate; palps with extremely long brown and white hairs; head ventrally clothed in pure white hairs; proboscis brown; antennae simple, ventrally ciliate, dorsally black with distal portions of segments white, becoming uniformly black-brown terminally. Thorax dorsally dark brownish black, dorso-laterally clothed with a mixture of white tipped brown spatulate scales and yellowish simple hairs; ventral surface clothed in pure white to yellowish white hairs. Legs with femoral and tibial segments clothed in a mixture of white and brown hairs, tarsal segments dorsally black with apical portion of each segment thinly banded with white scales, ventrally clothed in white scales. Primaries dorsally with basal area grayish; basal line slightly convex medially, black; transverse anterior line undulating from costa to inner margin, becoming very strongly black on anal veins where it forms a distinct concave "V", shaded outwardly with gray; median cross line distinct, black, slightly concave from costa to inner margin where it forms a black dot with two apical black teeth on anal veins; orbicular and claviform absent; reniform very obscure with outer edge on transverse posterior line; transverse posterior line costally a broad whitish wedge extending to and including base of reniform, thence overlain with golden-brown scales becoming hardly discernible; subterminal space overlain with golden-brown scales from inner margin to a point opposite top of reniform where there is a distinct black convex "U" adjoining sub-terminal line; directly above this "U", there is a small white wedge on costal margin with a black area from there to terminal line; subterminal line represented by small black shadings on veins; terminal space gray; terminal line represented by black lunules between veins; fringed with a checkerboard pattern of black and white. Ventral surface of primaries with ground color orange yellow from base to beyond reniform; a distinct black medial band is present being broad at costa, outcurving below reniform and diminishing to a thin line on inner margin; reniform present in black; subterminal space black, extending black rays along veins into terminal area. Subterminal line light yellowish white; fringes black and white checkered. Greatest length of forewing 12 mm. Secondaries dorsally with basal area suffused with black scales and overlain with pale orange hairs; intradiscal line black, broad, more or less straight; patch of black scales extending from inner margin between intradiscal line and anal angle; discal dot a prominent black wedge with point directed toward anal angle of forewing, outer margin with broad black band becoming broader on Cu_2 and at anal angle; fringes dull orange to light brown. Ventral surface of secondaries with same orange yellow ground color of primaries; basal area lightly suffused with black scales; intradiscal line black, thin, incomplete medially, then turning sharply to inner margin $\frac{1}{2}$ the distance between the base and hind angle; black discal dot prominent; post median line thin, discontinuous, very erratic in its course, somewhat paralleling terminal line; terminal line black, broadest at apex and at cubital area; fringes dull orange.



13. Female genitalia, *A. depicta depicta* (Bauer-Buckett Slide No. 63G20-21), same data as figure 7. 14. Female genitalia, *A. depicta morula* (Bauer-Buckett Slide No. 63G20-22), same data as figure 3. 15. Paratype female genitalia, *A. macfarlandi* (Bauer-Buckett Slide No. 63B14-1), Forest Grove, Oregon, April 28, 1935 (S. Jewett, Jr.).

Abdomen with dorsal crest basally; segments dorsally black with apical margin of yellowish scales, laterally with long dull yellow hairs. Ventral surface of abdomen with dull yellowish hairs. Genitalia as in fig. 15.

Allotype male: As in female, except ciliations longer on antennae, ventral hairs of head and thorax not as pure white; ground color of primaries golden brown, therefore maculation not as contrasting as holotype female. Greatest length of forewing 10 mm. Genitalia as in figs. 11 & 12.

Holotype female: McDonald Fork of Oak Creek, 5 miles northwest Corvallis, Benton County, Oregon, elevation 500 feet, April 11, 1962 (A. Noel McFarland).

Paratypes (all from Oregon): One male (designated Allotype) Corvallis, March 20, 1937 (S. Jewett, Jr.) (Bauer-Buckett Slide No. 63B14-2); One male Corvallis, March 20, 1937 (S. Jewett, Jr.); One male Kane Creek, March 18, 1934 (B. and B. Slide No. 63B13-2); One female Forest Grove, April 28, 1935 (S. Jewett, Jr.) (B. and B. Slide No. 63B14-1); Two females, Forest Grove, April 28, 1935 (S. Jewett, Jr.).

The holotype is deposited in the Entomology collection, University of California, Davis, California. The male allotype, two female paratypes, and one male paratype are deposited in the Bauer-Buckett collection, Davis, California. One female paratype is deposited in the collection of Noel McFarland, Valyermo, California, and one female paratype in the American Museum of Natural History, New York.

This species is most closely allied to *A. depicta* Grote. Superficially, it can be easily distinguished from *depicta* by its browner coloration, presence of a white wedge on costa of the primaries, and the pure white vestiture on the vertex of the head. *A. macfardandi* has a more northerly distribution, thus far known only from Oregon.

The species is named for Anthony Noel McFarland who collected the holotype specimen and made the type series available.

LITERATURE CITED

- RINDGE, F. H. and C. I. SMITH, 1952. A revision of the genus *Annaphila* Grote (Lepidoptera: Phalaenidae). *Bull. Amer. Mus. Nat. Hist.* 98(3): 191-248 plus 8 plates.

NOTICE

AN APOLOGY:

First, for the lateness of this issue of the JOURNAL. An extensive trip in the summer has put the editor behind in many commitments, including seeing this Journal through the press. Needless to say, we expect to be right up there on schedule by the first of the year.

Second, for the lack of four-color illustrations in this number. This is not intentional but, in fact, is correlated with the problem explained above.

We wish the JOURNAL to reach as broad an audience as possible, and sincerely request the submission of manuscripts from all over the world. Even articles not specifically mentioning LEPIDOPTERA, but of general biological nature, such as population analyses, zoogeographical principles, etc. are welcome. We favor well illustrated articles and can make full color illustrations at very low cost to the author. -----the editor.